US Army Corps
of Engineers

Ohio River Mainstem System Study Fact Sheet

The Study: The Ohio River Mainstem System Study (ORMSS) is a regional approach to modernize and upgrade navigation structures from Pittsburgh to Cairo, Ill. Efficient water transportation is critical to the economic, environmental and social vitality of the Ohio River valley. River commodity shipments have increased to more than 270 million tons annually. The existing Ohio River navigation system was built in various stages over the past century. Structures are deteriorating and future investments must use the best science available to evaluate upgrades in order to maintain a reliable, efficient Ohio River transportation system.

The study identifies long-term needs, forecasts future river usage and establishes priorities for long-term improvements of the locks on the Ohio River. Prioritizing these needs and recommending schedules for improvements ensures systematic and effective modernization. The study identifies economic, environmental and social impacts resulting from navigation improvements along the 981-mile river corridor.

A wide range of improvements were evaluated. Low cost considerations included adding mooring facilities, improving lockage policies and traffic management. Structural upgrades were considered, for example, replacing the 56 feet by 360 feet chamber at Emsworth, Pa., constructed in 1920, with a new 110 feet by 600 feet chamber. Proactive component replacement strategy improvements were reviewed, such as replacing worn out gate valves and machinery. Major rehabilitations were another strategy considered in the study.

The draft report prioritizes the recommended Ohio River modernization improvements using five prediction scenarios through the year 2070. The Ohio River System Investment Plan (SIP) is one of two products contained in the 10-year study. The second product of the study is a system-wide Programmatic Environmental Impact Statement (PEIS) with documentation of the Cumulative Effects Assessment (CEA). The study is a compilation of engineering, economics and environmental research.

Study Challenges: One of the most challenging aspects of the study was to have a reliable evaluation of variable Ohio River traffic predictions. Predictions rely upon the future use of coal since it accounts for more than 50 percent of all commodities moved on the Ohio River. To ensure the most reliable reinvestment strategy, five traffic scenarios were developed, each with projections and impacts to economic, environmental and social components of the system.

Prior Investigations: Previous Ohio River investigations during the study indicated a need for larger auxiliary locks at the John T. Myers, Indiana and Greenup, Kentucky sites. The Myers and Greenup Interim Feasibility Report completed in April 2000 recommended extending the existing auxiliary chambers from 110 feet by 600 feet to 110 feet by 1,200 feet at each project. These improvements were authorized in the Water Resources and Development Act of 2000. The Myers and Greenup lock extension projects have advanced to the preconstruction engineering and design phase.

Current Construction: Olmsted and McAlpine locks and dams were previously studied by the Corps, authorized and are now under construction. Olmsted, a new project on the lower Ohio River, replaces the last two historic wicket-style dams built in the early 1920s with twin 110 feet by 1,200 feet chambers and a five tainter gate dam with a navigation pass. The McAlpine construction replaces the 110 feet by 600 feet and old 110 feet by 360 feet auxiliary locks with a 110 feet by 1,200 feet lock. The existing swing and draw bridges are being replaced with a fixed bridge which spans the new and existing 1,200 feet locks. As with all navigation construction projects, both are cost shared with the Inland Waterways Trust Fund.

Ecosystem Restoration Program: This program is designed to address ecosystem restoration in the Ohio River System. It seeks to restore 25,000 acres of bottomland hardwood forests, improve 1,250 acres of aquatic habitat, restore and protect 40 islands, improve 100 miles of shoreline and riparian habitat and restore 25,000 acres of wetlands. Authorized under the Water Resources and Development Act of 2000, the Ecosystem Restoration Program does not have funding at this time.

Public Involvement: The public comment period extends through July 26. After the draft is released, and public comments are reviewed, a final report will be released.

Study information is at: http://www.lrl.usace.army.mil/